a plurality of holes for passing process gases to the semiconductor processing chamber; and

a portion having a machined surface exposed to the process chemistry used in the semiconductor fabrication apparatus, wherein the portion of the gas distribution plate has substantially no micro-defects about 50 micrometers or greater.

12. (Twice Amended) A plasma-based fabrication apparatus, comprising:

a plasma chamber that receives process gases and forms a plasma therefrom; and

a gas distribution plate including a plurality of holes that supply the process gases into said plasma chamber, a portion of said gas distribution plate having a machined surface and being exposed to the process chemistry used in said plasma chamber, wherein the portion of the gas distribution plate has substantially no micro-defects about 50 micrometers or greater and wherein said gas distribution plate is pretreated by heating at a controlled temperature between about 1500 degrees Celsius to 1600 degrees Celsius for a prolonged time.

Please cancel claims 15-17.

18. (Once Amended) A plasma-based fabrication apparatus as recited in claim 12 wherein the prolonged time is from about 5 to 10 hours.